

REMARKS

The Official Action dated April 4, 2003 has been carefully considered.

Accordingly, the changes presented herewith, taken with the following remarks, are believed sufficient to place the present application in condition for allowance.

Reconsideration is respectfully requested.

By the present Amendment, claims 1-24 are cancelled and claims 25-97 are added. Claim 25 contains limitations from original claims 1, 3 and 5, while claim 2 contains limitations from original claim 6. Claims 27 and 32 each contain limitations from original claims 1, 3 and 7, claim 32 additionally contains limitations from claim 12, and claims 28-31 contain limitations from original claims 8-11, respectively. Support for claims 33 and 34 may be found in example 1 in the specification. Claim 35 contains limitations from original claim 8 while claims 36-41 contain limitations from original claims 13 and 14. Claims 42-44 contain limitations from original claims 1, 3 and 11, while support for claims 43-45 may also be found in original claims 1 and 3 and in example 1 in the specification. Claim 46 contains limitations from original claims 16-18 while support for claims 47-52 may be found in the specification, including examples 2 and 4. Support for claims 53-57 may be found in original claims 16-19, respectively.

Support for claims 58 and 59 may be found in original claim 16, while support for claims 63-67, claims 68-72 and claims 73-79 may be found in original claims 20, 21 and 23, respectively. Claim 80 contains limitations from original claims 1, 3, 16 and 20, while claims 81 and 82 contain limitations from original claims 4 and 21, respectively. Claim 83 contains limitations from original claims 1, 3 and 23, and claim 85 contains limitations from original claims 1, 3 and 24. Claim 87 contains limitations from original claims 1, 3, 16 and 17, and claim 89 contains limitations from original claims 1, 3, 16 and 18. Claims

84, 86, 88 and 90 contain limitations from original claim 4. Claims 91-95 contain limitations from original claims 19-21. Finally, support for claims 96 and 97 may be found in the specification at page 16. It is believed that these changes do not involve any introduction of new matter, whereby entry is believed to be in order and is respectfully requested.

Claim 15 was previously indicated as allowable. As claim 53 contains limitations from claim 15, it is believed that claim 53 is prima facie allowable.

Additionally, claims 9-12 and 17-24 were previously indicated as containing allowable subject matter. As claims 29-31 contain limitations from claims 9-11, respectively, and claim 32 contains limitations from claim 12, it is believed that claims 29-32 and claims 33-35, 40, 41, 49 and 59 dependent on claim 32 are prima facie allowable. Similarly, as claims 42-44 contain limitations from claim 11, these claims, and claims 47, 50, 51, 60 and 61 dependent thereon are believed to be prima facie allowable. As claims 55-57 contain limitations from claims 17-19 and claims 63-67, 68-72 and 73-79 contain limitations from claims 20, 21 and 23, respectively, claims 55-57 and 63-79 are believed to be prima facie allowable. Finally, as claims 80, 82, 83, 85, 87 and 89 contain limitations from claims 20, 21, 23, 24, 17 and 18, respectively, it is believed that claims 80, 82, 83, 85, 87 and 89, and claims 81, 84, 86, 88 and 90-95 dependent thereon are prima facie allowable.

Claims 1, 13, 14 and 16 were rejected under 35 U.S.C. §102(e) as being anticipated by the Chudzik et al U.S. Patents Nos. 6,165,345 and 6,007,833. The Examiner asserted that Chudzik et al teach crosslinkable macromers including two or more polymer pendant polymerizable groups and one or more polymer-pendant initiator groups. Claim 16 was also rejected under 35 U.S.C. §103(a) as being unpatentable over Chudzik et al.

Claims 1, 13 and 14 were rejected under 35 U.S.C. §102(b) as being anticipated by the Hatton et al U.S. Patents Nos. 4,977,293 and 5,100,987. The Examiner asserted that Hatton et al teach monoethylenically unsaturated compounds whose polymers are useful as polymeric photoinitiators.

Claims 1, 13 and 14 were rejected under 35 U.S.C. §102(e) as being anticipated by the Chabreck et al U.S. Patent No. 6,204,306. The Examiner asserted that Chabreck et al teach oligomeric/polymeric photoinitiators comprising partially or completely hydroxy alkylated acrylates, methacrylates, acrylamides or methacrylamides. Claims 1, 13 and 14 were also rejected under 35 U.S.C. §102(b) as being anticipated by the Chabreck et al published PCT application WO 96/20919, the Examiner asserting the Chabreck et al U.S. Patent No. 6,204,306 as the English equivalent thereof.

However, Applicants submit that the macromolecular hydrophilic photocrosslinkers, compositions, methods and photoactive agents defined by claims 25-97 are neither anticipated by nor rendered obvious over any of Chudzick et al, Hatton et al or Chabreck et al. Accordingly, these rejections are traversed and reconsideration is respectfully requested.

More particularly, the macromolecular hydrophilic photocrosslinkers defined by the present claims and employed in the claimed compositions and methods have a general formula $(A)_n(B)_m(C)_p$ wherein, inter alia, A, B and C are randomly distributed and the unit C carries a photoactive group which is an acyl phosphine oxide or an aroyl phosphine oxide. Applicants find no teaching or suggestion in any of the cited references of such macromolecular hydrophilic photocrosslinkers or the photoactive agents from which they may be formed.

For example, Chudzik et al disclose light-activated free-radical polymerization initiators such as acetophenone derivatives and the like (the Chudzik et al '345 patent, column 6). Hatton et al disclose monoethylenically unsaturated compounds of a specified formula (I) (the Hatton et al '293 patent, column 2), and Chabracek et al disclose functionalized aminoacetophenones (Chabracek et al '306 patent, Abstract). However, Applicants find no teaching or suggestion in any of these references relating to a macromolecular hydrophilic crosslinker as defined by the present claims and including an acyl phosphine oxide or aroyl phosphine oxide photoactive group carried on an ethylene group in the macromolecular structure, or a photoactive agent from which such a crosslinker may be formed.

Anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claims is found, either expressly or inherently described, in a single prior art reference, *In re Robertson*, 49 U.S.P.Q.2d 1949, 1950 (Fed Cir. 1999). In view of the failure of the cited references to teach a macromolecular hydrophilic photocrosslinker as presently claimed, the cited references do not anticipate the presently claimed photocrosslinkers, the compositions or methods employing the photocrosslinkers, or the photoactive agents from which they may be formed.

In order to render a claimed invention obvious, the prior art must enable one skilled in the art to make and use the claimed invention, *Motorola, Inc. v. Interdigital Tech. Corp.*, 43 U.S.P.Q.2d 1481, 1489 (Fed. Cir. 1997). In view of the failure of the cited references to teach a macromolecular hydrophilic photocrosslinker as claimed, particularly including a photoactive group as required by the present claims, or the photoactive agents from which they may be formed, these references do not enable one skilled in the art to make and use the claimed invention. Thus, the cited Chudzik et al, Hatton et al and

Chabracek et al references do not render the presently claimed photocrosslinkers, compositions and methods obvious.

It is therefore submitted that the rejections under 35 U.S.C. §102 and/or §103 based on Chudzik et al, Hatton et al and Chabracek et al have been overcome. Reconsideration is respectfully requested.

Finally, claims 1-8, 13 and 14 were rejected under 35 U.S.C. §102(b) as being anticipated by the Angiolini et al publication, *Journal of Applied Polymer Science*, 51:133-143 (1994). The Examiner asserted that Angiolini et al teach polymeric photoinitiators bearing side-chain benzoyl diphenyl phosphine oxide moieties for UV curable coatings.

However, Applicants submit that the macromolecular hydrophilic photocrosslinkers, compositions, methods and photoactive agents defined by the present claims are not anticipated by and are patentably distinguishable from Angiolini et al. Accordingly, this rejection is traversed and reconsideration is respectfully requested.

More particularly, Angiolini et al disclose polymeric photoinitiators bearing 5-chain benzoyl diphenyl phosphine oxide moieties which are prepared by reacting poly(4-vinylbenzoic acid) or 4-vinylbenzoic acid/methyl methacrylate copolymers with thionyl chloride followed by methoxydiphenylphosphine. Angiolini et al disclose the photoinitiator moiety in Scheme 1 at page 134 as having the formula $-\text{CH}_2-\text{CH}(\text{phenyl}-\text{C}(\text{O})-\text{P}(\text{O})(\text{phenyl})_2)-$. The polymeric photoinitiators are disclosed as suitable for use as UV-curable surface coatings.

The macromolecular hydrophilic photocrosslinkers, compositions, methods and photoactive agents defined by the present claims are significantly distinguishable from the polymeric photoinitiators of Angiolini et al. For example, according to claim 25, the macromolecular hydrophilic photocrosslinker includes an acyl phosphine oxide or aroyl

phosphine oxide photoactive group linked to the ethylene groups of units C by a linking group comprising a group having the structure $-O-C(O)-NH-$. The macromolecular hydrophilic photocrosslinkers of claims 27 and 37 also include specifically defined linking groups which are neither taught nor suggested by Angiolini et al. The macromolecular hydrophilic photocrosslinkers of claims 42-44 include N-vinylpyrrolidone-based units, while the macromolecular hydrophilic photocrosslinker of claim 45 includes N,N-dimethylacrylamide-based units and phosphine oxide-carrying units of defined formula. Applicants find no teaching or suggestion by Angiolini et al of the specific features recited in these claims.

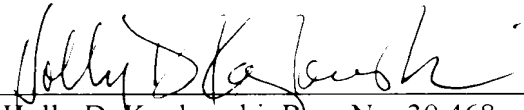
Moreover, Applicants find no teaching or suggestion by Angiolini et al of macromolecular hydrophilic photocrosslinkers which may be crosslinked upon exposure to light of wavelength above 305 nm. Rather, the polymeric photoinitiators of Angiolini et al are taught as being UV-curable. Importantly, Applicants find no teaching or suggestion by Angiolini et al relating to methods of preparing macromolecular hydrophilic photocrosslinkers as presently claimed, particularly by irradiation with light of wavelength above 305 nm, ophthalmically acceptable compositions, methods of forming an ophthalmic lens, or methods of forming an intraocular lens.

In view of these numerous deficiencies in the teachings of Angiolini et al, it is apparent that Angiolini et al do not disclose each and every element as set forth in the present claims, either expressly or inherently, and therefore do not anticipate the present claims under 35 U.S.C. §102. It is therefore submitted that the rejection under 35 U.S.C. §102 based on Angiolini et al has been overcome. Reconsideration is respectfully requested.

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Amendment dated October 6, 2003
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It is believed that the above represents a complete response to the rejections under 35 U.S.C. §§ 102 and 103, and places the present application in condition for allowance. Reconsideration and an early allowance are requested.

Respectfully submitted,

By 
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